

Office Memorandum • UNITED STATES GOVERNMENT

TO : R.C. Bushland, Entomologist, Kerrville,
Texas

FROM : C.L. Smith, Screwworm Eradication Program

SUBJECT: Larvicide test EQ-335 vs Bayer 21/199

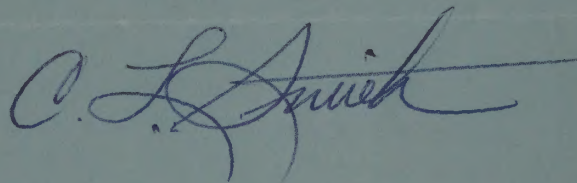
DATE: December 12, 1957

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Lester L. Smith
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Attached is a brief report of the test conducted comparing EQ-335, EQ-21/199, and 21/199 (0.5% spray) as screwworm larvicides.



COMPARATIVE LARVICIDE TEST

Smear EQ-335, Smear EQ-21/199 and 0.5% 21/199 Spray

Following the completion of the field test, in which sterile screwworm males were released over a 2,000 square mile area May-August 1957, there were available a number of goats that could be utilized in testing the larvicidal effectiveness of EQ-335, a smear containing Bayer 21/199 and a spray containing 0.5 per cent of Bayer 21/199. Both the smears were prepared at the Kerrville, Texas, laboratory and shipped to Orlando for testing. The spray was prepared from a commercial wettable powder formulation by Chemagro.

The goats used in the test were artificially infested with approximately 200 newly hatched larvae each and the larvae were permitted to develop until they were four days of age. At the time of treatment the goats were divided into three lots of approximately 20 goats each. The wounds in each lot of goats were considered fairly uniform in size and with approximately the same number of larvae present. The two smears were applied in the usual manner with a one inch varnish brush and the spray was applied with a Myers Wheelbarrow type sprayer operating at 50 pounds pressure. Before application smear EQ-21/199 had to be heated to eliminate flocculation. The goats were sprayed until considered wet, i.e. as in spraying for lice control.

All treatments caused 100 percent mortality of the larvae in the wounds within an hour after application of the insecticide. The rate of kill was about the same, perhaps the spray having a little advantage. Three days following treatment and twice each week thereafter until the wound was reinfested or healed or the goat died, the animals were exposed to two regular holding cages of screwworm flies released in a large 10' x 10' x 8' screen cage. When the larvae became re-established in the wound, the animal was retreated and removed from the test. Likewise as wounds healed, the animals were removed from the test. A tabulation of the results obtained in the test follows.

Treatment	No. Wounds	Wound Exposures		Egg Masses			No. Wound Reinfested	Average No. Days Treatment - Reinfestation	Reinfestation Day Range
		Total	Average	Total	Average per Experiment	Percent Hatch			
Smear EQ-335	19	49	2.6	70	1.4	100	13	7.2	7-10
Smear 21/199	20	66	3.3	72	1.0	100	6	8.6	4-14
Spray 0.5% 21/199	20	64	3.2	106	1.6	100	6	8.0	7-10

The results of the test reported should not be considered as evidence of the superiority of one treatment over the others. However, it is of interest to note that both the Bayer 21/199 treatments received approximately one-half as many reinfestations as the EQ-335 treatment.

treatment. ST/122 treatments received approximately one-half as many reinforcements as the EG-332
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Treatment	No. of Mounds	Total Mounds	Average Exposure	Total Exposure	Experiment Average per EGG Mounds	Hatch Percent	Reinforced No. Mounds	Reinforcement Data Treatment	Reinforcement Data Treatment	Day Range
ST/122	02	40	2.3	201	0.1	100	0	0.8	0.8	01-09
ST/122	02	00	0.0	00	0.0	100	0	0.8	0.8	01-09
ST/122	02	00	0.0	00	0.0	100	0	0.8	0.8	01-09